The project *Optimal Strategies in Networked Labour Markets* at the Center for Humans and Machines, Max Planck Institute for Human Development, is seeking applications for a

**Postdoctoral Research Position**  
(*E 13 TVöD; 39 hours/week*)

Funding for the postdoctoral position is available for two years. The position is available from 1 January, 2020, or later.

**Job Description**  
The *Machines and the Future of Work* project (PI: Dr. Alex Rutherford) investigates *Optimal Strategies in Networked Labour Markets*. The postdoc will work closely with the CHM director Prof. Iyad Rahwan, and with the principal investigator of the Machines and the Future of Work theme, Dr. Alex Rutherford.

Future research will advance research into how individual skills retraining can protect workers from the negative effects of automation. We expect that the post-doctoral researcher will undertake novel research into the network structure of skills and jobs, possible strategies for navigating this network through retraining and implications for the workforce as a whole.

The successful candidate may supervise students who assist him/her during data analysis and data collection. There are no formal teaching requirements. The project is part of the Center for Humans and Machines (director: Iyad Rahwan) at the Max Planck Institute for Human Development (MPIB) in Berlin.

**Requirements**

We are searching a postdoc with a strong interest and established expertise in computational modelling and data analysis of social systems.

**Required Experience**

- PhD in computer science, physics, applied maths, economics or related fields.  
- Network analysis (e.g. modularity, path length, diameter, assortativity)  
- Graph algorithms (e.g. greedy search, depth first search)  
- Data science (data cleaning and munging using e.g. pandas, numpy, scipy)  
- Network simulation in Python/R (e.g. graph-tool, networkX, igraph)  
- Previous publications in interdisciplinary journals (PLoS One/EPJ Data Science)
Highly Desirable Experience

- Preparing manuscripts for publication in interdisciplinary and high impact journals (e.g. Nature/Science)
- Analytic methods (e.g. differential equations, evolutionary game theory)
- Use of quantitative methods to model social systems
- Monte-Carlo simulation
- High performance computing

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.

Furthermore, the Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.

To apply, please send (as ONE FILE and via email) a statement of research interests, a CV, a copy of relevant certificates, (p)reprints of two publications, and a list of two references to Dr. Alex Rutherford, MPI for Human Development, Lentzeallee 94, 14195 Berlin (sekrahwan@mpib-berlin.mpg.de) Receiving of applications will continue until the position is filled and evaluation of applicants will start on a first-come-first-serve basis. We are kindly asking you to submit your application without a photo.

Signed Dr. Brigitte Merz